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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,653	12/28/2001	Jerry L. Mizell	14686RRUS01U	4122

7590 04/27/2007  
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EXAMINER
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POPHAM, JEFFREY D

ART UNIT	PAPER NUMBER
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2137

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/035,653

Applicant(s)

MIZELL ET AL.

Examiner

Jeffrey D. Popham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-18,20-30 and 32-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-18,20-30 and 32-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Remarks***

Claims 1, 4-18, 20-30, and 32-39 are pending.

***Response to Arguments***

1. Applicant's arguments filed 2/19/2007 have been fully considered but they are not persuasive.

First, it is noted that applicant has quoted and referred to random portions of Brothers, that were not used in rejection of the claims, and argues that Brothers does not teach limitations of the claims based on these random portions. As far as the arguments may hold against the cited portions, the secure uniform resource locator of Brothers clearly comprises a "uniform resource locator of the originator". As applicant has mentioned, paragraph 158 of Brothers teaches that an unsecure URL is formed by combining an unsecure basic URL, the key data, and the IP address of the WAD, such unsecure URL being subsequently hashed to generate a secure URL. As seen from this, the unsecure URL can be seen as a "uniform resource locator of the originator", and therefore, could also be used in rejection. Other embodiments provide additional recitations of a "uniform resource locator" in varying forms.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers (U.S. Patent Application Publication 2002/0083178) in view of Schneier (Schneier, Bruce, "Applied Cryptography", Second Edition, 1996, pp. 37-39).

Regarding Claim 1,

Brothers discloses a method of authenticating the originator of a packet in a network comprising:

Filtering the packet for a tag embedded therein (Paragraphs 16, 19-22, and 25);

Reading contents of the tag including a URL of the originator and a first hash (Paragraphs 16, 19-22, and 25);

Calculating a second hash from the URL of the originator in the tag (Paragraphs 16, 19-22, and 25); and

Authenticating the originator of the packet upon determining the first hash and the second hash are identical (Paragraphs 16, 19-22, and 25);

But does not disclose that the first hash is encrypted and decrypting the hash.

Schneier, however, discloses that the hash is encrypted, and decrypting the hash (Pages 37-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate

the signature techniques of Schneier into the resource distribution system of Brothers in order to prove and verify that the signature is authentic, unforgeable, and non-reusable, that the signed document is unalterable, and/or that the signature cannot be repudiated.

Regarding Claim 4,

Brothers as modified by Schneier discloses the method of claim 1; in addition, Brothers discloses that calculating a second hash from the URL of the originator further comprises calculating the second hash from an instance of a hashing algorithm used by the originator to generate the first hash (Paragraphs 16, 19-22, and 25).

Regarding Claim 15,

Brothers discloses a node in a network for authenticating an originator of a packet comprising:

A processing unit (Paragraphs 16, 19-22, and 25; and Figures 3 and 5);

A memory unit operable to store an authentication algorithm therein that is executable by the processing unit (Paragraphs 16, 19-22, and 25; and Figures 3 and 5); and

An interface to a network operable to receive the packet, the authentication algorithm operable to filter the packet for a tag embedded therein, obtain a first hash in the embedded tag, calculate a second hash from a URL of the originator in the tag, and authenticate the originator

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upon a comparison between the first hash and the second hash (Paragraphs 16, 19-22, and 25; and Figures 3 and 5).

But does not disclose that the first hash is encrypted and decrypting the hash.

Schneier, however, discloses that the hash is encrypted, and decrypting the hash (Pages 37-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the signature techniques of Schneier into the resource distribution system of Brothers in order to prove and verify that the signature is authentic, unforgeable, and non-reusable, that the signed document is unalterable, and/or that the signature cannot be repudiated.

Regarding Claim 16,

Brothers as modified by Schneier discloses the apparatus of claim 15, in addition, Brothers discloses that the instance of the hashing algorithm is executable by the processing unit, and wherein a second instance of the hashing algorithm is executable by the originator of the packet and operable to generate the encrypted hash (Paragraphs 16, 19-22, and 25; and Figures 3 and 5).

3. Claims 5, 8, 11-14, 17, 18, 20, 23-25, 28-30, 32, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers in view of Schneier, further in view of Blott (EP 1,054,529 A2).

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Regarding Claim 5,

Brothers as modified by Schneier does not disclose specifying a billing treatment for the packet upon authentication of the originator.

Blott, however, discloses specifying a billing treatment for the packet upon authentication of the originator (Paragraphs 36-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the resource distribution system of Brothers as modified by Schneier in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage dependent upon the level of quality of service the user receives and/or wishes to get (Paragraph 50).

Regarding Claim 8,

Brothers as modified by Schneier and Blott discloses the method of claim 5, in addition, Blott discloses that specifying a billing treatment for the packet upon authentication of the originator further comprises interrogating a database of billing treatment directives, the database including a record containing the identification of the originator and an associated record specifying the billing treatment (Paragraphs 36-39).

Regarding Claim 11,

Brothers as modified by Schneier and Blott discloses the method of claim 5, in addition, Blott discloses generating a call detail record having a

traffic volume count of a data session that includes the packet (Paragraphs 36-39); and calculating a tariff for the data session based upon the contents of the call detail record (Paragraphs 36-39).

Regarding Claim 12,

Brothers as modified by Schneier and Blott discloses the method of claim 11, in addition, Blott discloses that calculating a tariff for the data session further comprises calculating the tariff and levying the tariff against the originator of the packet (Paragraphs 28 and 50).

Regarding Claim 13,

Brothers as modified by Schneier and Blott discloses the method of claim 11, in addition, Blott discloses that calculating a tariff for the data session further comprises parsing the traffic volume count from other traffic volume counts included in the call detail record, the calculated tariff calculated for the parsed traffic volume count independently of the other traffic volume counts (Paragraphs 28, 36, and 50).

Regarding Claim 14,

Brothers as modified by Schneier and Blott discloses the method of claim 11, in addition, Blott discloses that generating a call detail record having a traffic volume count further comprises generating a call detail record having the traffic volume count and the identification of the originator associated therewith (Paragraph 28, and Figure 3).

Regarding Claim 17,



Brothers as modified by Schneier does not disclose an accounting algorithm executable by the processing unit and operable to generate a call detail record including a traffic volume count of a data session including the packet.

Blott, however, discloses an accounting algorithm executable by the processing unit and operable to generate a call detail record including a traffic volume count of a data session including the packet (Paragraphs 36-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the resource distribution system of Brothers as modified by Schneier in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage dependent upon the level of quality of service the user receives and/or wishes to get (Paragraph 50).

Regarding Claim 18,

Brothers as modified by Schneier and Blott discloses the apparatus of claim 17, in addition, Blott discloses that the call detail record further includes the identification of the originator in association with the traffic volume count (Paragraph 28; and Figure 3); and Brothers discloses that the identification is a URL (Paragraphs 16, 19-22, and 25).

Regarding Claim 20,

Brothers as modified by Schneier discloses the apparatus of claim 15, in addition, Brothers discloses that an identification of the originator comprises a URL (Paragraphs 16, 19-22, and 25); but does not disclose a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the node operable to condition the packet such that the network forwards the packet according to the traffic treatment specification.

Blott, however, discloses a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the node operable to condition the packet such that the network forwards the packet according to the traffic treatment specification (Paragraphs 22 and 36-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the resource distribution system of Brothers as modified by Schneier in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage dependent upon the level of quality of service the user receives and/or wishes to get (Paragraph 50).

Regarding Claim 23,

Brothers as modified by Schneier and Blott discloses the apparatus of claim 17, in addition, Blott discloses that the node is operable to forward

the call detail record to a second node in the network operable to perform billing procedures on the contents thereof (Paragraph 50).

Regarding Claim 24,

Brothers discloses a telecommunication network operable to transmit a data packet from an originator to a terminating device within the network, the network comprising:

A first node connected to a data network and operable to receive the packet generated by the originator, the first node operable to execute an authentication algorithm operable to filter the packet for a tag embedded therein, obtain a first hash in the embedded tag, calculate a second hash from a URL of the originator in the tag, and authenticate the originator upon a comparison between the first hash and the second hash (Paragraphs 16, 19-22, and 25); and

A terminating device (Paragraphs 16, 19-22, and 25);

But does not disclose that the first hash is encrypted and decrypting the hash; or a second node operable to receive the packet from the first node and transmit the packet to a terminating device.

Schneier, however, discloses that the hash is encrypted, and decrypting the hash (Pages 37-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the signature techniques of Schneier into the resource distribution system of Brothers in order to prove and verify that the signature is authentic,

unforgeable, and non-reusable, that the signed document is unalterable, and/or that the signature cannot be repudiated.

Blott, however, discloses a second node operable to receive the packet from the first node and transmit the packet to a terminating device (Paragraph 48). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network usage billing system of Blott into the resource distribution system of Brothers as modified by Schneier in order to allow the system to monitor and modify a user's quality of service so as to provide appropriate billing for such usage dependent upon the level of quality of service the user receives and/or wishes to get (Paragraph 50).

Regarding Claim 25,

Brothers as modified by Schneier and Blott discloses the system of claim 24, in addition, Brothers discloses that the terminating device is a mobile terminal (Paragraphs 94 and 103).

Regarding Claim 28,

Brothers as modified by Schneier and Blott discloses the system of claim 24, in addition, Brothers discloses that the originator is operable to execute a first instance of a hashing algorithm that generates the first hash, the first node further comprising a second instance of the hashing algorithm operable to calculate the hash from the address of the originator in the tag (Paragraphs 16, 19-22, and 25).

Regarding Claim 29,

Brothers as modified by Schneier and Blott discloses the system of claim 24, in addition, Blott discloses an accounting algorithm operable to generate a call detail record including a traffic volume count of a data session including the packet (Paragraphs 36-39).

Regarding Claim 30,

Brothers as modified by Schneier and Blott discloses the system of claim 29, in addition, Brothers discloses an identification that is a URL (Paragraphs 16, 19-22, and 25); and Blott discloses that the call detail record further including the identification of the originator in association with the traffic volume count (Paragraphs 36-39).

Regarding Claim 32,

Brothers as modified by Schneier and Blott discloses the system of claim 24, in addition, Brothers discloses that an identification of the originator comprises a URL (Paragraphs 16, 19-22, and 25); and Blott discloses a database having a record maintaining an identification of the originator and an associated record having a traffic treatment specification, the first node operable to condition the packet such that the network forwards the packet according to the traffic treatment specification (Paragraphs 22 and 36-39).

Regarding Claim 36,

Brothers as modified by Schneier and Blott discloses the system of claim 24, in addition, Brothers discloses an identification that is a URL (Paragraphs 16, 19-22, and 25); and Blott discloses a billing node operable to perform billing procedures on a call detail record, the billing node including an interface with the first node and operable to receive a call detail record thereon, the billing node operable to execute a billing algorithm operable to generate a tariff dependent on contents of a traffic volume container included in the call detail record, the call detail record having the identification of the originator associated therewith, the tariff further dependent on the identification of the originator (Paragraphs 28 and 50; and Figure 3).

Regarding Claim 37,

Brothers as modified by Schneier and Blott discloses the system of claim 36, in addition, Blott discloses that the tariff is levied against the originator (Paragraphs 28 and 50).

Regarding Claim 38,

Brothers as modified by Schneier and Blott discloses the system of claim 36, in addition, Blott discloses that the tariff is levied against the terminating device (paragraphs 34, 37, and 50).

Regarding Claim 39,

Brothers as modified by Schneier and Blott discloses the system of claim 36, in addition, Brothers discloses that an identification comprises a

URL (Paragraphs 16, 19-22, and 25); and Blott discloses that the call detail record includes other traffic volume containers, the tariff dependent on the identification of the originator being independent of the other traffic volume containers (Paragraphs 28, 36, and 50).

4. Claims 6, 7, 9, 10, 21, 22, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers in view of Schneier and Blott, further in view of Nichols (Nichols et al., "Definition of Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers), The Internet Society, 1998, pp. 1-20).

Regarding Claim 6,

Brothers as modified by Schneier and Blott does not disclose writing a differentiated services codepoint into the packet upon authentication of the originator.

Nichols, however, discloses writing a differentiated services codepoint into the packet upon authentication of the originator (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the resource distribution system of Brothers as modified by Schneier and Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 7,

Brothers as modified by Schneier, Blott, and Nichols discloses the method of claim 6, in addition, Nichols discloses that writing a differentiated services codepoint into the packet further comprises writing a differentiated services codepoint into at least one of a traffic class octet of an IPv6 packet and a type-of-service field of an IPv4 packet (Pages 7-9, Section 3).

Regarding Claim 9,

Brothers as modified by Schneier and Blott does not disclose that the associated record contains a differentiated service code point.

Nichols, however, discloses that the associated record contains a differentiated service code point (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the resource distribution system of Brothers as modified by Schneier and Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 10,

Brothers as modified by Schneier, Blott, and Nichols discloses the method of claim 9, in addition, Blott discloses that interrogating the database further comprises supplying the database with the identification of the originator read from the tag contents (Paragraphs 36-39), and



Nichols discloses reading the differentiated service code point from the associated record (Pages 7-9, Section 3).

Regarding Claim 21,

Brothers as modified by Schneier and Blott does not disclose a differentiated services codepoint.

Nichols, however, discloses that the traffic treatment specification is a differentiated services codepoint (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the resource distribution system of Brothers as modified by Schneier and Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 22,

Brothers as modified by Schneier, Blott, and Nichols discloses the apparatus of claim 21, in addition, Nichols discloses that the node is operable to write the differentiated services codepoint into at least one of a traffic class octet of an IPv6 packet and a type-of-service field of an IPv4 packet (Pages 7-9, Section 3).

Regarding Claim 33,

Brothers as modified by Schneier and Blott does not disclose a differentiated services codepoint.

Nichols, however, discloses that the traffic treatment specification is a differentiated services codepoint (Pages 7-9, Section 3). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the differentiated services field of Nichols into the resource distribution system of Brothers as modified by Schneier and Blott in order to enable scalable service discrimination in the Internet without the need for per-flow state and signaling at every hop.

Regarding Claim 34,

Brothers as modified by Schneier and Blott discloses the system of claim 33, in addition, Nichols discloses that the first node is operable to write the differentiated services codepoint into at least one of a traffic class octet of an IPv6 packet and a type-of-service field of an IPv4 packet (Pages 7-9, Section 3).

Regarding Claim 35,

Brothers as modified by Schneier and Blott discloses the system of claim 34, in addition, Blott discloses that the first node and the second node are operable to provide forwarding treatments of the packet across the network according to service specifications (Paragraphs 36-39); and Nichols discloses that the service specifications are associated with the differentiated services codepoint (Pages 7-9, Section 3).

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5. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brothers in view of Schneier and Blott, further in view of Uskela (WO 01/471179).

Regarding Claim 26,

Brothers as modified by Schneier and Blott does not disclose that the network is a mobile telecommunication system and the second node is a switching system, the network further comprising: a base station subsystem; and a base transceiver station managed by the base station subsystem, the terminating device in communication with the base transceiver station.

Uskela, however, discloses that the network is a mobile telecommunication system and the second node is a switching system, the network further comprising: a base station subsystem (Page 5, line 28 to Page 6, line 10); and a base transceiver station managed by the base station subsystem, the terminating device in communication with the base transceiver station (Page 5, line 28 to Column 6, line 10; and Figure 1). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the wireless communication system of Uskela into the resource distribution system of Brothers as modified by Schneier and Blott in order to prevent spoofing so that one party cannot act as though it is another party, and so that the system can be implemented in a wireless telephone environment, thus expanding the system's use.

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Regarding Claim 27,

Brothers as modified by Schneier, Blott, and Uskela discloses the network of claim 26, in addition, Uskela discloses that the first node is a gateway general packet radio services support node (Page 6, lines 11-30).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Popham whose telephone number is (571)-272-7215. The examiner can normally be reached on M-F 9:00-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey D Popham  
Examiner  
Art Unit 2137

  
EMMANUEL L. MOISE  
SUPERVISORY PATENT EXAMINER